

DOCUMENT RESUME

ED 029 459

EF 003 110

Institutional Size and Capacity. Report of Master Plan Committee L.
Illinois State Board of Higher Education, Springfield. Master Plan Committee.

Pub Date 66

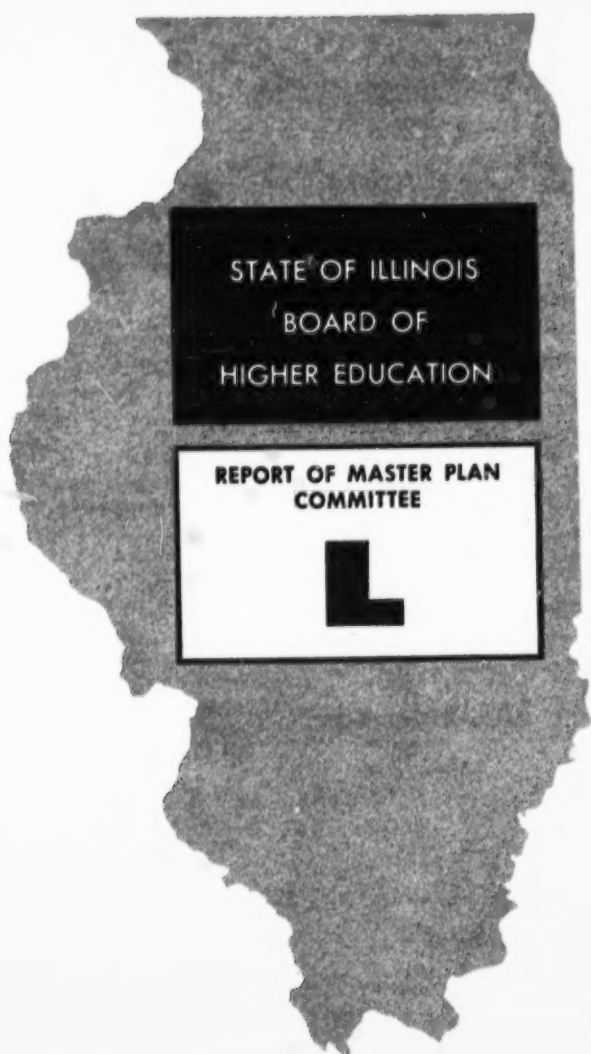
Note-28p.

EDRS Price MF-\$0.25 HC-\$1.50

Descriptors-*Annotated Bibliographies, Campus Planning, *Coordination, Educational Planning, *Higher Education, *Institutional Research, *Master Plans, Research, State Agencies

A report made by a study committee to the Board of Higher Education for its use in developing a "master plan" for higher education in Illinois. Contents include the charge to the study committee, its recommendations and its rationale. Recommendations consider optimum and maximum size, students to be served, future growth, institutional planning, and programs. An annotated bibliography is included. (FPO)

ED029459



Institutional Size and Capacity

A REPORT TO THE ILLINOIS BOARD OF HIGHER EDUCATION / **1966**

EF003110

ILLINOIS BOARD OF HIGHER EDUCATION

MEMBERS

BEN W. HEINEMAN, *Chicago, Chairman*
MILBURN P. AKERS, *Chicago*
CONRAD BERGENDOFF, *Rock Island*
HOWARD W. CLEMENT, *Des Plaines*
JOHN A. D. COOPER, *Evanston*
KENNETH L. DAVIS, *Harrisburg*
FRANK F. FOWLE, *Winnetka*
GEORGE S. HARRIS, *Chicago*
FRED W. HEITMANN, JR., *Glenview*
MRS. AUGUSTE C. HERSHEY, *Alton*
RAY PAGE, *Springfield*
RICHARD STENGEL, *Rock Island*
PAUL STONE, *Sullivan*

ALTERNATES

WAYNE A. JOHNSTON, *Flossmoor*
MELVIN C. LOCKARD, *Mattoon*
MAURICE B. MITCHELL, *Lake Forest*
W. I. TAYLOR, M.D., *Canton*

STAFF

LYMAN A. GLENNY, *Executive Director*
ARTHUR D. BROWNE, *Associate Director*
KEITH W. SMITH, *Associate Director*

300 EAST MONROE STREET
SPRINGFIELD, ILLINOIS 62706

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

REPORT OF MASTER PLAN
COMMITTEE

L

INSTITUTIONAL SIZE AND CAPACITY

MEMBERS OF COMMITTEE L

JOHN E. BURNS, Associate Professor, Department of Management, DePaul University

LEO COHEN, Professor of Economics, Southern Illinois University

ROBERT COLE, Director, Illinois Association of School Boards

FRANCIS GEIGLE, Executive Vice President, Northern Illinois University

ROBERT J. HAVIGHURST, Professor of Education and Human Development, University of Chicago

MRS. LEON LAMET, American Association of University Women

NORMAN PARKER, Chairman, Vice President, University of Illinois at Chicago Circle

VERNON C. POHLMANN, Professor of Sociology, Illinois State University

ASA RUYLE, Assistant to the President, Eastern Illinois University

HARRY L. WELLBANK, National Director of Training, Sears, Roebuck and Company

JEREMY WILSON, Director of Planning, Northwestern University

STAFF

JAMES B. HOLDERMAN, Chicago Circle, University of Illinois

A report to the Board of Higher Education for its use in developing a "Master Plan" for higher education in Illinois. This report is the work of the study committee and is NOT the work of the board or its staff.

TABLE OF CONTENTS

Part I. The Charge	1
Part II. Recommendations	2
Part III. Rationale	3
Appendix	17

PART I
THE CHARGE

1. What is the optimum size for each of the existing campuses of state-supported institutions in Illinois?
2. What should be the maximum size of each institution?
3. What maximum enrollments are desirable for new state-supported institutions?
 - a. For comprehensive universities?
 - b. For institutions offering only undergraduate programs?
 - c. For institutions in urban areas over 500,000 population?
 - d. For institutions in areas less than 500,000 population?
4. What influence, if any, should the following factors have on determining a desirable maximum size?
 - a. Educational effectiveness.
 - b. Efficient management, including cost per student.
 - c. Student attachment or "alienation."
 - d. Research-oriented institution vs. an instruction-oriented institution.
 - e. Faculty recruitment and retention.
 - f. Commuter location vs. rural site.
5. Should mandatory enrollment ceilings be established for state-supported universities?
 - a. What advanced planning is required to effect such ceilings?
 - b. What flexibility is needed in establishing a ceiling?
 - c. How can an institution best regulate its enrollment ceilings? Cut-off date? Raise admissions? Increased tuition? Change in "mix" of students? etc.
6. What responsibility should institutions have for increasing their enrollment capacities through year-round instruction?
 - a. How can students be induced into taking regular instruction during the summer term?
 - b. What standards of space utilization should be achieved as a condition of attaining "maximum" enrollments?

PART II
RECOMMENDATIONS
(In the order of the Charge)

1. Optimum size for existing campuses is that size or point at which maximum effectiveness as a viable educational unit is achieved within the limits of available or projected economic, physical, programmatic, and staff facilities.
2. The optimum size should determine the maximum size.
3. The new state - supported four - year institutions of higher education should serve primarily a commuter student population with not more than 20 per cent of the students resident in institutional or privately operated living facilities.

The maximum size of a comprehensive university should be the sum of the optimum enrollments of each of its professional and graduate programs, in addition to the enrollment of the four - year commuter institutions as outlined above.

- 3.1 Growth for new and existing institutions should be limited to approximately 1,000 per year.
- 3.2 New four - year commuter institutions should have a minimum planned size within four years of 2,500 FTE¹ students and 5,000 students at end of eight years.
4. All of the factors listed in item 4 of the Charge should be considered in determining optimum size.
5. Institutional planning is recommended on such important questions as mix of students and rate of growth.
6. Programs are recommended to develop year - round use of facilities and observance of high space utilization standards.

¹All enrollment figures in this report are in terms of full - time equivalency (FTE).

PART III RATIONALE

1. Optimum size for existing campuses is the point at which maximum effectiveness as a viable educational unit is achieved within the limits of available or projected economic, physical, programmatic, and staff facilities. In every instance, the internally planned ceiling for campus and/or institution makes these assumptions. The committee believes that different considerations of optimum size apply to the existing residential institutions than apply to the new commuting institutions. For the purposes of this statement, we would call Urbana "residential" and Chicago Circle "commuting."

It remains a nagging problem to differentiate between an internally planned maximum and optimum size of a campus or institution. If we accept the notion of internally affixed ceilings for planning purposes, factors identical to those used in determining optimums are used. At what point of enrollment is a composite maximum effectiveness achieved within the context of the internal and external factors relevant to college growth and goals cited below? An answer to this question is illusive. The factors for determining maximum and optimum, then, tend to be identical. The committee, therefore, has no specific or separate answer from its responses to queries about maximum size.

2. Rather than stating specific numbers of maximum enrollment for existing institutions, the committee believes the preceeding recommendation provides adequate limitations for maximum size.

From very early in the committee's deliberations, its membership has felt strongly that the arbitrary and external setting of a blanket institutional or campus size should be avoided. The committee feels strongly that methods for regulating growth, mix of students, etc. are the most practical in the long run and are in complete accord with the tenets of the Master Plan developed by the Board of Higher Education.

The committee has expressed the practical impossibility of rationally determining maximum size for existing or new institutions for some of the reasons listed herein. (See discussion under points 1, 3, 4, 5.)

3. New state - supported four - year institutions of higher education should primarily serve a commuter student population with not more than 20 per cent of the students resident in institutional or privately operated living facilities. These institutions should be restricted to a size not larger than 25 per cent more than the number of potential students living within a radius of thirty miles from the institution. If a comprehensive university is to be established, its maximum size is the sum of the optimum enrollments of each of its professional and graduate programs in addition to the enrollments of the four - year commuter institutions as outlined above. (Any university offering work beyond four years is considered a comprehensive university.)

3.1 Recommendations for normal rates of growth for new and existing institutions are as follows:

<u>Institutional Size</u>	<u>Rate of Growth</u>
2,500 Students	20 per cent per year
5,000 Students	15 - 10 per cent per year
10,000 Students	10 - 7 per cent per year
Above 15,000	7 - 5 per cent per year

In all cases, growth is limited to approximately 1,000 per year.

Rate of Growth

Judging from the experiences of the presidents of the state universities, as revealed in testimony before this committee, the rate of growth of a university is of vital concern. Too rapid growth as experienced in recent years tends to make it difficult and even impossible to assimilate new faculty members and to help them develop an awareness of the goals and traditions of the institution. This problem is especially acute as the shortage of qualified instructors results in a

considerable turnover of personnel and in the hiring of some persons with limited qualifications.

There is some additional evidence to suggest that very rapid growth may tend to produce student unrest and alienation. Rapid growth tends to increase the number of conflicting situations, shortages, and similar problems which are likely to annoy students. The greater the number of students already assimilated in proportion to new ones, the greater are the chances for smooth operation.

Excessive growth rates may adversely affect relations between the college and the citizens of the community and may lead to conflicts over issues such as land acquisition, traffic, political balance of power, etc.

On the other hand the rate of growth must be sufficient to meet the educational needs of the state. Such needs will, of course, be met in part by the additional junior colleges and new four-year commuter colleges.

The rate of growth will necessarily vary according to the size and stage of organization of a college. A completely new college might properly double in size for a year or two until it includes all four years and attains some minimum size. The rate of growth cannot escape impact from the rapidly expanding junior college system. It is anticipated that the junior colleges will accommodate an increasing number of the college-going freshmen and sophomores, 40 per cent by 1975, 60 per cent by 1980.

Implicit in these recommendations is a concern that institutions have a reasonable maximum size. While the committee is reluctant to place a flat ceiling on any institution, the 5 per cent or 1,000 students per year maximum growth for mature institutions is indicative of the wish to see new institutions established rather than the disproportionate expansion of existing institutions. The committee has presumed that new colleges would have modest graduate programs principally at the master's level.

3.2 New four-year commuter institutions should have a minimum planned size within four years of 2,500 FTE students and 5,000 students at the end of eight years.

Minimum Programs

Initially there should be a full complement of courses for majors in the traditional fields of human learning: the fine arts, social sciences and history, natural sciences, and mathematics. Each new college should have a Department of Education providing a major in elementary education and the usual service and professional courses in education necessary for a state teacher's license to teach in the secondary schools. It is probable that in the face of present trends, these teacher education programs should be expanded to five years or the equivalent of a master's degree. It would also be highly desirable that these colleges should develop initially the basic courses in economics, accounting, finance, marketing, and management leading to the master's degree in business administration.

A public university should be large enough to offer an adequate curriculum on an economical basis. The usual range of liberal arts and sciences should be available comparable with offerings at other state - supported universities. Other specialized courses should be available in the light of the local situation. Enrollment also should be large enough to justify a wide range of athletic, dramatic, musical, forensic, civic, social, and other activities.

A college should be large enough to attract a well - qualified faculty. Good instructors tend to seek opportunities to teach primarily in some fairly specialized field and to have several colleagues in closely related areas to provide intellectual stimulation. They desire facilities, time, and encouragement to carry on some research. This includes an adequate library, laboratories, and related facilities for the use of both the faculty and students.

The college should be large enough to attract as heterogeneous a student body as possible. A well - educated person prepared to function in our heterogeneous society requires the experience of a somewhat cosmopolitan environment.

To some extent the minimum size may be affected by the density of population in which the college is located. It is the opinion of this committee, however, that there is a desirable

7

minimum size regardless of location. A sufficiently large population base should be anticipated to assure the minimum enrollment.

Implied in all of the above criteria is the issue of cost. Although the educational results should be more significant than the costs, it is clear that a minimum size is necessary to provide an excellent program on an economical basis. The initial enrollment will depend, of course, on the plan of development of a new college. For example, there may be a decision to start with only a freshman class or to start with upper-level courses at the junior and senior level. In any case this committee recommends that its minimum standards listed above be applicable.

4. All of the factors listed in item 4 of the Charge should be considered in determining optimum size.

The ultimate size of an existing or new institution in relation to instructional programs and other internal institutional factors should be predicated on: (1) the attainment of an orderly and systematic growth and development of new programs and the extension of existing programs, in accordance with the state wide coordinated plan; (2) the ability of the institution to maintain and improve quality programs; (3) the ability to recruit and retain qualified faculties; (4) the assignment of programs on the basis of proposals which are fully justified in terms of need, space, and facilities and faculty; and (5) the ability to provide the necessary education and cultural opportunities which are economically feasible in the larger community of students.

As a basic premise to any consideration of the relationship of institutional programs to institutional size, it should be emphasized that the significance of size of enrollment varies greatly with the diversity of educational programs being conducted at a given institution and with the kind of interrelationships existing among them. In addition, any definitive position assumed in regard to maximum size is without meaning unless evaluated in terms of campus enrollment in programs and departments or related to existing resources. Students go to college to avail themselves of the opportunity to enter a

variety of career programs, and these opportunities should not be denied them because of arbitrary ceilings.

The state - supported university should be large enough so that a very broad course selection can be offered in a variety of career opportunities, particularly in the liberal arts and sciences. On this basis, it would be reasonable to take the position that the scope of programs will dictate the minimum size and for each professional school or specialized program added there needs to be a minimum size to justify an adequate curriculum. It would be educationally unsound to have a program in music if the institution were not large enough to support an orchestra. One of the accepted criteria for approval of new programs or extension of existing programs by the Board of Higher Education is the estimated number of students in such a program. The breadth of programs is, therefore, a most significant criterion from the standpoint of minimum size. It should also be observed, however, that size should not be so great that there is a proliferation, of course, with unnecessary and uneconomical duplication of courses in various departments and colleges.

Staff Recruitments

Closely related to programs and their effect on size is the adequacy and recruitment of staff. A college can be too small to attract the most highly qualified scholars who ordinarily seek the stimulation of colleagues in their chosen disciplines as well as the stimulation of specialized programs. A college can be too small to have several professors in each area and to provide opportunities for research in specialized fields. Both of these are more likely to be available in larger universities.

There is no question that the larger institutions with graduate school orientation have a greater opportunity to recruit outstanding faculty. Severe limitations on size and program then can have a debilitating effect upon staff retention and recruitment.

Alienation

A third factor involving institutional size and capacity pertains to the influence on student attachment of "alienation" by size. It is asserted that large enrollments result in impersonality and produce a condition described as "student alienation." There is no consensus as to the relationship of student unrest to campus size. Writers on the subject indicate that such a condition is as likely to occur in small institutions as on a large campus. On the other hand, however, a college needs to be large enough so that students may interact with each other in an atmosphere of varied racial, religious, social, political, and economic backgrounds.

There is considerable speculation on the basis of scanty and almost totally subjective evidence that size has a directly proportionate effect on student alienation. Such a supposition is more than vaguely reminiscent of the small town ethos which has been characteristic and at times predominant in American society over the years. There is plenty of evidence in the work of the political sociologists, to name one discipline, to suggest that social integration and identification are not necessarily the products of size. There is as much evidence to support propositions about social alienation within small communities as within the large urban society.

A number of scholars and observers have reacted to the evidences of alienation on the campus and its relationship to size. We quote a few.

Buell G. Gallaher, President, the City College of New York:

"Q. Do you feel that these problems of student unrest tend to pop up more at big universities than at smaller ones?"

"A. I would put it this way: I've been a President of a college of 320 students, and now I'm President of a college at the other extreme, with more than 33,000 students. The same kinds of problems emerge in both situations."²

²U.S. News and World Report (March 29, 1965), p. 67.

Max Ways, author:

"Looked at objectively as a problem of organization the modern university presents a formidable challenge alongside of which most problems of business or government seem easy. The university question, indeed, contains in a highly concentrated form the general challenge that confronts this society. When we are faced with exploding cities, or misused affluence, or traffic jams, or the proliferating complexity of higher education, we tend to raise a dispirited doubt about the worth of democratic and technological civilization. The doubt is sometimes expressed in a grim question: must more be worse?

"That is never the right question about society in general or about the universities. Bigness as such is never the root of the trouble. Nor is progress as such. Nor affluence as such. Nor complexity as such.

"'Must more be worse?' suggests that we might deliberately go back to a smaller, slower, poorer and simpler society. In our hearts we know we won't. Yet persistent images from the past come between us and our present world, spoiling our appreciation of its opportunities and distracting us from efforts to reduce its grave defects by practical attention to the quality of change."³

Roger Heyns, Chancellor, University of California at Berkeley:

"It's a question of what functions are going to be served there and what kinds of people will be served, how big classes should be, what the typical experience in class should be and so on. The size of the aggregate doesn't interest me at all. I believe our problems are not total size, but internal organization."⁴

³"On the Campus; a Troubled Reflection of the U.S.," Fortune (September, 1965), p. 132.

⁴California Magazine (Berkeley Alumni Magazine) (October, 1965), pp. 5-6.

Efficient Management

What effect does size have on the efficient management of an institution? One of the arguments favoring the imposition of enrollment ceilings assumes that there is an optimal (or maximal) limit to enrollment and associated size factors beyond which a campus cannot grow without a general loss of educational and operational effectiveness. The question of maximum size of business institutions has been a favorite topic of debate in the management field. Size loses its significance, however, if certain conditions exist such as: (1) the establishment of an effective organization; (2) the employment of a sufficient number of top executives with a great capacity for effective organization and management; and (3) the availability of all other required resources. The history of opinions on what the desirable limit for a college or university should be in order to effect educational and operational effectiveness does not engender greater confidence in the long-term validity of such ceiling figures.

Now that education has been identified as a "growth industry," it does not seem incompatible to include in this report several factors of external character which may be worthy of consideration in the "town-gown" category!

For discussion purposes these remarks are related to two facets of the problem of "size and capacity": the expansion of existing institutions and the creation of new institutions.

Expansion of Existing Institutions

Few institutions have escaped the problems inherent in expansion--the typical college campus has grown spasmodically in Illinois as it has elsewhere. The three major choices appear to be: (1) an expansion of existing facilities, (2) addition of a new campus section, and (3) moving the campus to a new area.

Unfortunately, in urban areas educational institutions have unadvertently made some contribution to neighborhood "blight." In many instances these areas now can qualify for

federal urban renewal. Simply, the city acquires and clears the area, sells it for expansion, and claims the buyer's (university's) expenditure as part of its one-third share of renewal costs, thereby reducing the price of expensive metropolitan acreage.

An expanding institution located in a large metropolitan area tends to have less difficulty with the increased need for public services and utilities than the college located in a small urban center where the services have a "built-in" restricted capacity. Water, sewerage, streets, fire protection, and transportation are common problems.

Institutions and large metropolitan areas tend to complement each other for economic and cultural reasons. Typical services to such a community might include: (1) institutes on city problems, (2) research conferences, business, etc., (3) services to public school, professions, etc., (4) training of city planners and other urban specialists.

The university as an employer is not to be underestimated. Yale is New Haven's second largest employer — the same is true of the University of Pittsburgh. The University of Chicago invested \$4,000,000 in "neighborhood activities" to stabilize the area.

The addition of a new campus section involves problems similar to those discussed above. The wisdom of moving the campus to a new site encompasses factors unrelated to this particular assignment

Creation of New Institutions

Of major importance in the consideration of a new site are the two factors of accessibility and environment. Initial cost of a site and its development apparently are secondary concerns.

Adequate planning for size as early as site acquisition can reduce several undesirable factors attributed to "bigness." A core area which can serve adjacent smaller units devoted to specific interests tends to offer one hopeful solution to the problems of "bigness."

Adequate control of the peripheral area surrounding the new site — determined prior to the actual land purchase — appears to contribute favorably to the environmental quality of the university community.

New campus sites in other states provide a variety of alternatives. Comparative costs are not indicated and no distinct pattern of choice was apparent in the cases studied.

University of Pittsburgh	\$450,000,000
University Circle in Cleveland	\$175,000,000
University of Pennsylvania and Drexel	\$ 80,000,000

(All have encountered some form of community difficulty.)

The University of California has developed a new community at Irvine and the college at Santa Cruz originally was a meadow and forest. For two of their four proposed state colleges they chose San Jose and Sonoma.

Another group of problems is related to matters that are indigenous to sudden expansion to any metropolitan and/or urban area. Conversations with citizens in university towns in Illinois indicate the difficulties are similar, namely: (1) a need for additional water supply, (2) sewage disposal, (3) inadequate funds for streets, walks, etc., (4) loss of autonomy, (5) a need for increased police and fire protection, (6) higher rents, (7) area sprawl, (8) higher utility rates, (9) increase in wages of service employees, and (10) traffic — transportation. The advantages are obvious: (1) increase in employment, (2) business potential, (3) increased community income, (4) competitive consumer prices, etc.

There is some indication that it is possible for an institution to outgrow the adjacent community. At this point, it would seem expedient that the university either provide service facilities at its own expense or consider other alternative methods for providing physical facilities.

5. In lieu of recommendations for mandatory ceilings, the committee regards the limitations set by its recommendations in terms of rate of growth and mix of students and for commuter institutions as adequate. Every institution should be encouraged to develop planning activities which utilize a series of planned

enrollment ceilings for a series of future dates. Public universities should be required and private ones encouraged to make such plans to help to develop a meaningful statewide plan.

The use of the word "mandatory" carries with it the obvious implication that such ceilings would be fixed by some external agent with original and appellate jurisdiction. The committee has consistently felt that growth can be regulated through other means. On the other hand, the committee recognizes the existence and the necessity of ceilings for planning purposes established by the institutions themselves. It is the recommendation of the committee that when a saturation point of residence facilities, or feeder student population, or of other internal and external factors is reached, the campus should limit itself or be limited by some other body, for example, its board of control, which would deny it funds or additional facilities.

Considerable flexibility is essential in planning; the kind of ceilings that campuses just "grow right through" are meaningless. Ceilings can be particularly useful in anticipating facilities and staff in the face of enrollments, but are debilitating when commuter feeder population, facilities, and/or staff are increased without a subsequent and related shift upward in ceilings.

5.1. The committee recommends that the mix of students in four - year college enrollment for existing and new campuses be regulated as follows: The lower division enrollments should be leveled off until by 1970 a balance of 50 per cent between lower and upper division enrollments is achieved. This mix should be accommodated further to prepare for a 40 per cent lower division and 60 per cent upper division by 1974.

In the event that the number of students desiring and eligible to attend a state institution exceeds the number of spaces available, the use of selective admission standards is endorsed.

Graduate programs and students at the master's level should be permitted without regard to local residence when, in the opinion of the Board of Higher Education, any institution has acquired a qualified undergraduate faculty in a given field in sufficient number to warrant the establishment of

a program. Provision should then be made for adequate support facilities.

Regulation of Enrollments

Most institutions are regulating their enrollment ceilings with a number of devices: (1) Cut - off dates for application have been established; (2) Admission requirements have been raised; (3) Progressive admission programs have been set up, and (4) Changes in mix of students have been effected.

The raising of admission requirements and the progressive admission programs tend to eliminate the "average" student and publicly supported four - year institutions become as selective for superior students as private institutions. Cut - off dates put the applicant in a particular position of forcing public institutions to compete with private institutions with cut - off dates.

The committee recommends that the mix of student in four - year college enrollment for existing and new campuses be regulated accordingly. The lower division enrollment should be leveled off by 1970 when a balance of 50 per cent between lower and upper divisions is achieved. This mix should be accommodated further by 1974 to prepare for a 40 per cent lower - division and 60 per cent upper - division mix.

One other frequently relevant factor in limiting enrollment is availability of residence hall space. This seems to be an entirely appropriate device for limiting enrollment in keeping with our general recommendation that campus saturation prompt construction of new commuter campuses. Students not living within a reasonable commuting distance (one hour each way) of a four - year institution should be given priority for admission to a residentially equipped campus over students who live near the campus.

6. In order to develop full utilization of facilities, consideration should be given to admitting students according to a staggered schedule, for example, in the quarter or trimester system.

6.1 Institutions should develop a control office to assure

campus adherence to space use standards through centrally controlled class schedules and space assignments. Standards of space utilization should be followed.

The committee feels strongly that year - round instruction and subsequently greater utilization of facilities is very important and institutions need to act in this area. It is a fact, however, that current operating budgets equal the value of the physical plant every five years or so. Moves to year - round operation will quite naturally increase operating expenditures proportionately up to one - third or even one - half more.

Full utilization of campus facilities cannot be reasonably divorced from other considerations, for example, the goals and services of the institution in adult education, supplemental education, and other services to the community.

By the use of the full - year program of offerings through the quarter or trimester system, more students will be encouraged to participate year round.

Standards of space utilization now being developed would be enforced. A central control of space for classroom assignment and timetable on the class schedule are important steps toward attaining maximum enrollments through the effective utilization of space.

APPENDIX
ANNOTATED BIBLIOGRAPHY

"A Kappan Survey: How Colleges Combat Alienation and Improve Teaching," Phi Delta Kappan (April, 1966), pp. 410-414.

This article is a summary of replies to requests to public relations and news bureau directors in representative colleges and universities across the nation. The college-within-a-college, student participation in policy-making, and improvement of instruction are a few of the methods used to combat student alienation.

Burton R. Clark, Educating the Expert Society (San Francisco: Chandler Publishing Company, 1962).

In this book, a study in the sociology of education, Clark devotes a few pages of discussion to "size and complexity" of colleges (pp. 227-233). The impersonalization of processing people in batches at registration, in objective testing, and at mass graduations is pointed out. Students lose their identity. But he cites the Harvard house plan as an example where internal substructure may offset size. "The absolute size of colleges and universities can be misleading, for the effect of size on interpersonal relations and student culture changes markedly with the nature of the organization substructure."

Christopher S. Jencks and David Riesman, "Patterns of Residential Education: A Case Study of Harvard," in Nevitt Sanford (ed.), The American College (New York: John Wiley and Sons, Inc., 1962), pp. 731-773.

This is a discussion of the Harvard house system and includes a discussion of the optimal size of an "educational community," in this case a smaller unit within a larger organization. The community should be small enough so that students can know the names of others and should be a microcosm of the larger organization. "In the case of the Harvard house system . . . it is believed that students and faculty members, associating in these residential

units can do much to educate each other in ways that are not encourage by the formal curriculum; and we ourselves believe that emphasis on the houses is not misplaced given an academic setting where salaries and libraries are opulently adequate by general American (or foreign) norms."

"Civil Rights, College Fare Top List of Campus Protests," Chicago Sun - Times (April 3, 1966), p. 66.

This article presents a review of a report of a survey conducted by the Educational Testing Service, Princeton, N. J., which was presented to a meeting of the National Association of Women Deans and Counselors in Washington, D. C. The survey does not seem to have been published, but a copy of the survey has been requested.

According to the Chicago Sun - Times, the survey was based on questionnaires sent to 850 deans of four - year colleges and universities.

"Protest groups rarely exceeded 8 per cent of the student population.

"The size of the college apparently had something to do with the amount of protest activity, the survey said. Fifty large public universities reported more organized protest for almost all of the 27 issues listed in the study.

"For example, 56 per cent of the big schools had protests on local civil rights issues, compared to 38 per cent of all colleges surveyed. And 68 per cent of the larger schools had protests about Viet Nam policy as compared to 21 per cent of all the colleges."

Clifford Lord, "Hooray for Revolution," College and University Journal (Summer, 1965), pp. 11-16.

This article, written by the president of Hofstra University, attributes student unrest to changes in society plus the increasing impersonalization demonstrated by objective tests, IBM cards, and the lower echelons of the bureaucracies where what gets done is by the book (rigidly by the book) at the third or fourth level of administration: "It might be a good idea to listen to what

the students are saying. We just might learn something." He suggests more emphasis on teaching.

Gerald P. Burns, "Multiversity and College," College and University Journal (Summer, 1965), pp. 9-10.

The author suggests that the organization of large universities results in student rebellion: "... the factors that brought about this mood of student rebellion were bigness and impersonality, lack of concern for students, faculty neglect of student, mounting academic pressures, excessive paternalism. These fostered in the students a lack of institutional loyalty, a sense of growing power, an urge to play a dominant role, and a frustration with regard to their academic program." He suggests that one of the ways to minimize serious student revolts is to establish small collegiate units such as the "cluster college" concept at the University of the Pacific.

Howard R. Neville, "How to Live with Bigness," Phi Delta Kappan (April, 1966), pp. 430-432.

This is a discussion of Michigan State University's attempt to develop a plan for controlled decentralization of its total undergraduate and graduate programs. Much emphasis has been placed on breaking down the student body into small groups such as in the living-learning units. The reasons for the need to make adjustments are not spelled out.

John Wilkinson, The Quantitative Society or, What Are You to Do with Noodle? (Santa Barbara, Calif.: Center for the Study of Democratic Institutions, 1964).

This is a controversial occasional paper discussing technology, automation, and implications for the quantitative society. The following quote was included here because it presents a don't-fold-bend-staple-or-mutilate-the-student image of higher education.

"As student enrollment increases exponentially, staffing problems are met by an ever-increasing use of electronic 'teaching' devices of a very great variety.

Examinations, too, tend more and more to be machine-graded. If students are taught and examined only for what machines can process, it is not to be wondered that 'bucking for grades' is the almost universal pre-occupation of American students. Education itself becomes a kind of machine programing, sometimes subtle, most often gross, but never valuational. The average college graduate is a very badly programmed computer" (p. 20).

Joseph Katz and Nevitt Sanford, "Causes of the Student Revolution," Saturday Review (December 18, 1965), pp. 64-66, 76, 79.

This is one of the most inclusive and relevant articles on the subject. Although size is not discussed, many of the implications that can be drawn are consequences of size. Katz and Sanford place primary emphasis upon characteristics of contemporary students as they relate to changes in society and educational institutions.

Joseph Katz and Nevitt Sanford, "The New Student Power and Needed Educational Reforms," Phi Delta Kappan (April, 1966), pp. 397-401.

The authors offer nine suggestions for realigning responsibility to deal with student problems and student unrest which has reached such proportions that major attention is necessary. "In the last eighteen months one central fact has emerged, namely, that students have arrived as a new power, a fourth estate which is taking its place beside the traditional estates of faculty, administration, and trustees. What is more, the situation is irreversible"

The suggestions for realigning responsibility deal with internal adjustments of institutions of higher education.

"Little Big Schools," Wall Street Journal (February 1, 1966). Annotation taken from AHE College and University Bulletin (May 1, 1966): "In an effort to reduce the impact of massive size on students, large universities are experimenting with

a variety of ways in which to group students. Michigan State has created colleges within residence halls which seem to work. Not only can the buildings be paid for through room charges, but students and faculty like the personal involvement which the colleges provide. Florida State is going to make a similar effort, but its attempt will cost more than regular grouping of students. A few universities are also creating experimental colleges whose innovations may later become part of the on-campus effort. Other schools, such as the University of the Pacific, have created cluster colleges, each frequently with a specific disciplinary goal. The biggest obstacle to creating these new colleges is the conservatism of college faculties. They hate to change."

Raymond C. Gibson, The Challenge of Leadership in Higher Education (Dubuque, Iowa: William C. Brown Company Publishers, 1964).

In this book discussing higher education, the author raises but does not answer several questions about institutional size.

"Several questions regarding size need to be answered on the basis of educational research rather than on the basis of debate or vectors of power.

1. At what point in the growth of a university would it be just as efficient and economical to establish a second university in another section of the state?
2. What are the savings to parents when students in metropolitan centers attend the university and live at home?
3. What are the educational advantages and disadvantages of living at home while attending college?
4. What is the optimum size, by educational criteria, for a single-purpose college, a multi-purpose college, a multi-purpose University?
5. What educational advantages accrue to an institution where professors, administrators, and students are able to communicate with one another?

6. What are the consequences of imposing quantitatively unlimited graduate programs upon quantitatively unlimited undergraduate programs? " (p. 7).

"Reports of Nationwide Student Unrest Exaggerated, According to Returns on Recent College Opinion Poll," College and University Business (February, 1966), pp. 54-55.

Relying on 323 completed questionnaires from a mailing to 732 college presidents (44 per cent response) the author of the report concluded, "Contrary to popular belief, the size of a college or university seems to have little correlation with the incidence of organized protest by students. . . ." Only thirty - nine of the college presidents reported organized demonstrations and size did not seem to be a factor.

Richard R. Renner, "Student Unrest in U.S. and Latin - American Universities," School and Society (Summer, 1965), pp. 294-295.

This article compares the student unrest in the United States and Latin America, pointing out that there is much less violent action by students here.

"Our multiversity administrators share a management ideology and pride themselves in their ability to adjust to circumstances " (p. 295).

"Students - A Survey," College and University Journal (Summer, 1965), pp. 3-8.

Six short statements from public relations men at selected colleges and universities about students at their institutions are presented in the article. Significant portions are quoted below.

Robert Reilly, Creighton University: "Today's student is more gifted, more articulate, more introspective and, unfortunately, more spoiled than any previous generation.

"Students come to learn and faculties are expected to teach. When neither is willing to submit to this discipline, rebellion results. The 'flight from teaching' is an integral

part of today's higher education and the philosophy of 'publish or perish' can be unsettling to an eager student paying escalating tuition."

Michael Radock, University of Michigan: "...the teach-in on Viet Nam originated on the University of Michigan campus, but counting students merely curious along with those earnestly concerned, still only about 10 percent of the students participated."

Fred Hess, Grinnell College: "A recent survey of representative students, professors, and administrators confirms this opinion. All agreed that today's student is more cause-oriented than was his counterpart of a generation or so ago."

"Students Generally Satisfied with University, U.S. War Policy, Wisconsin Survey Finds," College and University Business (February, 1966), p. 24.

This is the report of a survey conducted at the University of Wisconsin: "The Survey Research Laboratory interviews, conducted just before Christmas, did reveal that 12 percent of the students find the University off Wisconsin 'highly depersonalized.' Yet, Dean Kaufman said, the same survey showed 20 per cent of the students felt the University was 'not depersonalized' and 68 per cent believed it only 'moderately depersonalized'" (p. 24).

Theodore M. Newcomb, "Student Peer - Group Influence," in Nevitt Sanford (ed.), The American College (New York: John Wiley and Sons, Inc., 1962), pp. 469-488.

In a section dealing with peer - group influence and educational objectives, Newcomb notes, "As student bodies have become larger and less homogeneous in most American colleges, there has correspondingly arisen what might be referred to as a kind of academic anonymity." The result is a divorcement from intellectual concerns of the student peer - groups. Smaller units of from 300 to 400 students (as a reasonable guess as to optimal size) should be created in larger colleges.

- W. H. Cowley, "Student Unrest in Perspective," California Teachers Association Journal (March, 1962), pp. 30-33.

The author, now retired, was David Jacks Professor of Education at Stanford University. He points out that student violence has been fairly frequent in the long history of higher education from ancient Greece to modern times. The article also traces the student riots in colonial times, including one in which the leader was Alexander Hamilton, until the present.

- W. J. McKeachie, "Procedures and Techniques of Teaching: A Survey of Experimental Studies," in Nevitt Sanford (ed.), The American College (New York: John Wiley and Sons., Inc., 1962), pp. 312-364.

The pertinent section of this article is quoted.

"Size of an educational institution has a very similar relationship to the quality of education students receive from one another. The large institution with a student body of heterogeneous background offers students an opportunity to gain breadth, tolerance, and new perspectives from their contacts with one another. But large size is likely to reduce educational values by reducing intellectual interchange between students. There is certainly no reason that a student at a large college could not discuss with his professors. But, he is probably more likely to do so if he is living near another student who is also familiar with the problem and concerned about it. In a large college the statistical chances that another student in the same class will be in the same living group are smaller than in a small college. Students in a large college with many courses, and even many sections of the same course, have few common intellectual experiences. Consequently it is difficult for them to communicate about intellectual problems outside of class, and the common concerns which become the basis of social communication are football, the student newspaper, dating, and the dormitory food. With such barriers to interstudent education, the professor misses the good feeling one experiences when he finds that his teaching has provided an intellectual stimulus reaching far beyond his classroom" (p. 355).